

Balance Evaluation Systems

NeuroCom International, Inc., Clackamas, Oregon, a leading manufacturer of medical devices for patients with balance-associated problems, produces the EquiTest® System, a clinical tool which offers utility in diagnosis and in training of patients with balance and mobility disorders.

Both systems are based on core technologies developed under NASA funding. They are "computerized posturography" machines that measure patient responses to movement of a platform on which the subject is standing or sitting, then provide computer-generated assessments of the patient's postural alignment and stability. Widely used by major medical centers in the U.S. and abroad, they have applicability to diagnosis and treatment of such conditions as head injury, stroke, chronic dizziness, heightened risk of falling, and vestibular and central nervous system disorders.

NeuroCom's Balance Master is used by NASA to measure the equilibrium of Space Shuttle astronauts on return from orbit, and Russia recently installed the equipment for use in its space program. In medical testing and rehab use, a patient sits or stands on the platform and works with a special computer training game designed to address specific balance problems. The patient is instructed to move his body in ways that control a small figure on a computer monitor; the goal is to make the figure reach targets on the screen. Therapists can design targets to encourage specific movements by the patient that will help build physical stability, endurance and confidence. Repeated testing provides both patient and therapist an indication of progress.

Now chairman of NeuroCom, Lewis M. Nashner, Sc. D., founded the company in 1984 with initial research grant support from NASA. The original grant helped support development of EquiTest; subsequent funding under the Small Business Innovation Research program supported development of the Balance Master.



Above: The EquiTest System evaluates balance under dynamic test conditions.



The Balance Master is a tool for diagnosis and training of patients with balance disorders.